



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,842	01/18/2005	Gerhard Bonnet	PTK0025	8958
832	7590	09/04/2007	EXAMINER	
BAKER & DANIELS LLP 111 E. WAYNE STREET SUITE 800 FORT WAYNE, IN 46802			BRAINARD, TIMOTHY A	
		ART UNIT	PAPER NUMBER	
		3662		
		MAIL DATE	DELIVERY MODE	
		09/04/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/501,842	BONNET ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Timothy A. Brainard	3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 22 June 2007.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-21 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 15 July 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 8-13, and 15-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura et al (optical frequency). Nakamura teaches (claim 1) of a frequency shifted feedback emission source characterized by the fact that a means is used to increase emission frequency component beat intensity (fig 5 and experimental set-up), (claim 2) non-stochastic emission frequency component beat intensity increasing (abs), (claim3) the means to increase emission frequency component beat intensity includes injection light source (introduction), (claim 4 and 13) the injection light source is an injection laser (introduction), (claim 5) the injection light source is configured to inject irradiation into the resonator of the frequency shifted feedback

Art Unit: 3662

emission source (fig 5 and experimental set-up), (claim 8-10) the injection light is configured for appropriate intensity, regular modulation of intensity with time and/or phase of the injection light (frequency shifted feedback laser), (claim 11) the injection light is configured so at least temporally one linear modulation frequency variation takes place (frequency shifted feedback laser), (claim 12) the injection light is configured so that modulation lies in the magnitude order and/or close to the distances determined using the emission source and the given chirp rate from the frequency shifted feedback emission source is obtained (fig 5 and experimental set-up), a distance measurement configuration (abs), (claim 16) illuminating optics illuminate a surface to be investigated with light from the emission source to obtain a beat spectrum (fig 2 and frequency shifted feedback laser ), (claim 17) optics to direct irradiation for the light source to a defined partial range (introduction), (claim 18) a process for operating a frequency shifted feedback emission light source characterized by the fact that the injection light source characterized by the fact that the beat intensity of the frequency components of the emitted irradiation are increased beyond what is achieved in a stationary condition through spontaneous emission (fig 5 and experimental set-up), (claim 19) the injection light is configured to inject irradiation into the resonator of the frequency shifted feedback emission source specifically for irradiating into the amplification medium (introduction).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3662

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6, 7, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura. With respect to claims 6 and 20, Nakamura does not teach of the injection light is configured for emission of irradiation of an irradiation frequency close to the upper or lower amplification threshold. It would have been obvious to modify Nakamura to include the frequency sifted feedback emission source characterized by the fact that the injection light is configured for emission of irradiation of an irradiation frequency close to the upper or lower amplification threshold because it is one of multiple design choices with no new or unexpected results. With respect to claim 7 and 21, Nakamura does not teach the injection light source for the irradiation of injection light is narrowband in reference to the amplification bandwidth of the frequency shifted feedback emission source specifically a width below 5% or 1% of the bandwidth of the amplification of the frequency shifted feedback emission source. It would have been obvious to modify Nakamura to include the frequency shifted feedback emission source characterized by the fact that the injection light source for the irradiation of injection light is narrowband in reference to the amplification bandwidth of the frequency shifted feedback emission source specifically a width below 5% or 1% of the bandwidth of the amplification of the frequency shifted feedback emission source because it would allow an operator to inject a light source that is close to only the frequency of interest.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura as applied to claim 1 above, and further in view of Nigham Jr et al (US

Art Unit: 3662

5,991,317). Nakamura does not teach of the frequency shifted feedback emission source characterized by the fact that an optical fiber is used internally in the resonator. Higham Jr teaches of the frequency shifted feedback emission source characterized by the fact that an optical fiber is used internally in the resonator. It would have been obvious to modify Nakamura to include the frequency shifted feedback emission source characterized by the fact that an optical fiber is used internally in the resonator because it is one of multiple design choices with no new or unexpected results.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

This is a provisional obviousness-type double patenting rejection.

Claims 1-15, 20, and 21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3 of copending Application No. 10/501843. With respect to claims 1 and 15, although the conflicting

Art Unit: 3662

claims are not identical, they are not patentably distinct from each other because claim 1 of application 10/501843 anticipates claims 1 and 15 of the current application. With respect to claims 2-12, 14, and 20, although the conflicting claims are not identical, they are not patentably distinct from each other because claim 2 of application 10/501843 anticipates claims 2-12, 14, 20 of the current application. With respect to claim 13, although the conflicting claims are not identical, they are not patentably distinct from each other because claim 3 of application 10/501843 anticipates claims 13 of the current application

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim 16 and 17 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/501843 in view of Phillips. Application number 10/501843 does not teach of the distance measurement characterized by the fact that irradiation optics are used to broadly illuminate a surface to be investigated with light from the emission source and a means is used to obtain a beat spectrum containing height profile information or a distance measurement characterized by the fact that an optic is used to direct irradiation from the emission light source to a defined partial range of the object. Phillips teaches of the distance measurement characterized by the fact that irradiation optics are used to broadly illuminate a surface to be investigated with light from the emission source and a means is used to obtain a beat spectrum containing height profile information or a distance measurement characterized by the fact that an optic is

Art Unit: 3662

used to direct irradiation from the emission light source to a defined partial range of the object (col 37, lines 45-53). It would have been obvious to modify the application to include the distance measurement characterized by the fact that irradiation optics are used to broadly illuminate a surface to be investigated with light from the emission source and a means is used to obtain a beat spectrum containing height profile information or a distance measurement characterized by the fact that an optic is used to direct irradiation from the emission light source to a defined partial range of the object because it is one of multiple design choices with no new or unexpected results.

This is a provisional obviousness-type double patenting rejection.

Claim 19 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending Application No. 10/501843 in view of Nakamura. Application No. 10/501843 does not teach of the frequency shifted feedback emission source characterized by the fact that the beat the injection light source is configured to inject irradiation into the resonator of the frequency shifted feedback emission source. Nakamura teaches of the frequency shifted feedback emission source characterized by the fact that the beat the injection light source is configured to inject irradiation into the resonator of the frequency shifted feedback emission source. It would have been obvious to modify the application to include the frequency shifted feedback emission source characterized by the fact that the beat the injection light source is configured to inject irradiation into the resonator of the frequency shifted feedback emission source because it is one of multiple design choices with no new or unexpected result.

This is a provisional obviousness-type double patenting rejection.

***Response to Arguments***

Applicant's arguments filed 6/22/2007 have been fully considered but they are not persuasive. Applicant argues that there is a clear difference between a radiation source and apparatus for detecting the distance of an object.

Response: The claims of distance measuring device of copending application 10/512843 has a structure claimed in the current application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy A. Brainard whose telephone number is (571) 272-2132. The examiner can normally be reached on Monday - Friday 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (571)272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/501,842  
Art Unit: 3662

Page 9

TAB



THOMAS H. TARCAZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2000